



Area
(P950030)
Machine Id
526068-1178
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0103535	GFL0085331	---
Sample Date		Client Info		24 Jun 2024	04 Oct 2023	---
Machine Age	hrs	Client Info		14001	13425	---
Oil Age	hrs	Client Info		13425	0	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Not Changd	Not Changd	---
Filter Changed		Client Info		Not Changd	Not Changd	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	92	▲ 103	---
Chromium	ppm	ASTM D5185m	>20	4	6	---
Nickel	ppm	ASTM D5185m	>2	2	2	---
Titanium	ppm	ASTM D5185m	>2	<1	<1	---
Silver	ppm	ASTM D5185m	>2	<1	0	---
Aluminum	ppm	ASTM D5185m	>25	● 17	● 15	---
Lead	ppm	ASTM D5185m	>40	4	2	---
Copper	ppm	ASTM D5185m	>330	10	7	---
Tin	ppm	ASTM D5185m	>15	3	4	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

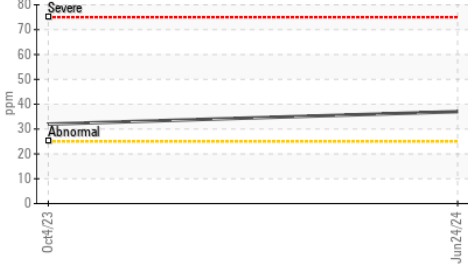
Silicon	ppm	ASTM D5185m	>25	▲ 37	▲ 32	---
Potassium	ppm	ASTM D5185m	>20	7	5	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	1	0.8	---
Nitration	Abs/cm	*ASTM D7624	>20	12.3	11.1	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	25.8	24.2	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---

FLUID CONDITION

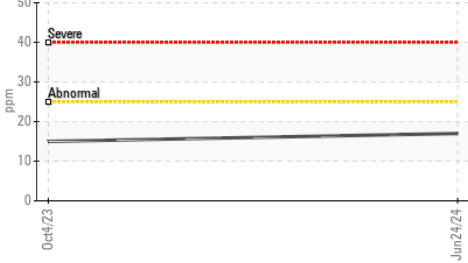
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		5	3	---
Boron	ppm	ASTM D5185m	0	4	3	---
Barium	ppm	ASTM D5185m	0	0	0	---
Molybdenum	ppm	ASTM D5185m	60	62	55	---
Manganese	ppm	ASTM D5185m	0	2	2	---
Magnesium	ppm	ASTM D5185m	1010	1031	962	---
Calcium	ppm	ASTM D5185m	1070	1271	1128	---
Phosphorus	ppm	ASTM D5185m	1150	1041	963	---
Zinc	ppm	ASTM D5185m	1270	1350	1248	---
Sulfur	ppm	ASTM D5185m	2060	3595	2788	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.3	20.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	5.8	6.5	---
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	14.3	---

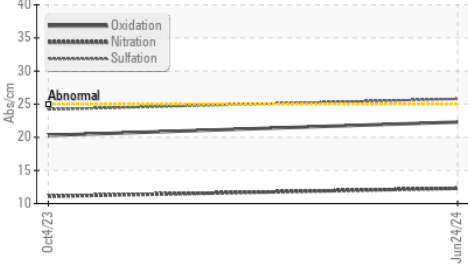
▲ Silicon (ppm)



● Aluminum (ppm)



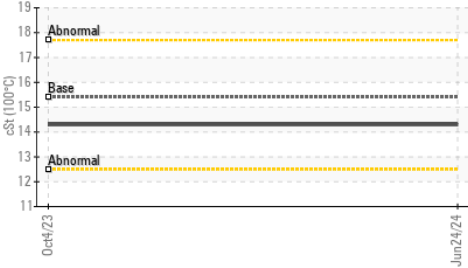
FT-IR (Direct Trend)



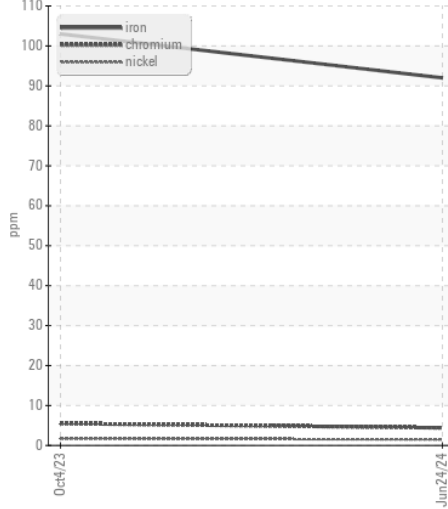
Base Number



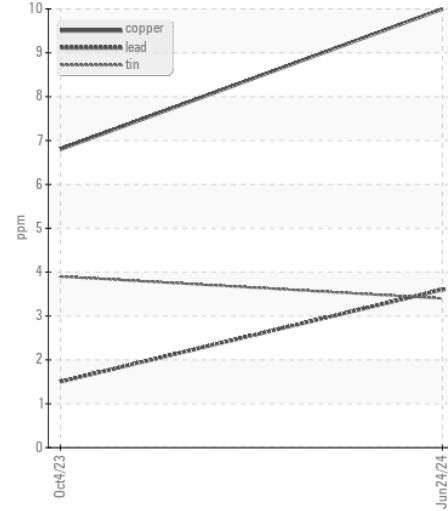
Viscosity @ 100°C



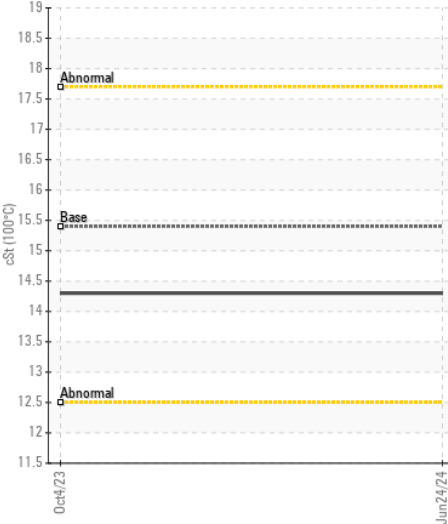
Ferrous Alloys



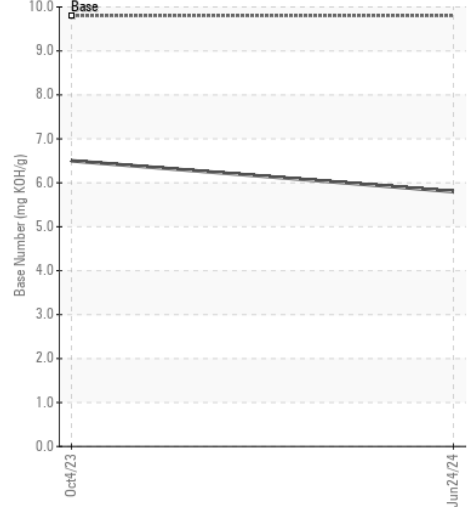
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0103535

Lab Number : 06223058

Unique Number : 11101255

Test Package : FLEET

Received : 27 Jun 2024

Tested : 28 Jun 2024

Diagnosed : 30 Jun 2024 - Don Baldrige

GFL Environmental - 958A - Chillicothe Wigan

19908 N. State Rd 29

Chillicothe, IL

US 61523

Contact: Bryan Link

blink@gflenv.com

T:

F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)